

# The School of Pharmacy

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## **MISSION**

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The mission of The University of Mississippi School of Pharmacy is to improve the health of our state citizens as well as those of the nation and the world:

- by educating pharmacy practitioners, pharmaceutical scientists, and other health professionals via a variety of degree programs, including the Bachelor of Science in Pharmaceutical Sciences, Doctor of Pharmacy, Master of Science, and Doctor of Philosophy, and by facilitating the establishment of postdoctoral residencies and fellowships;
- by generating and disseminating new biomedical knowledge through collaborative and multidisciplinary research and scholarly activity;
- by advancing pharmaceutical care by providing pharmacy practitioners with professional development opportunities and by conducting practice-based research; and
- by providing service to pharmacists, other health professions and scientific disciplines, and citizens of Mississippi, the nation, and the world.

## **PROFESSIONAL PROGRAM**

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The Board of Trustees created the School of Pharmacy on July 1, 1908. The objective of the Doctor of Pharmacy curriculum is to provide an academic foundation with adequate professional experience to enable a graduate to successfully deliver pharmaceutical care in a variety of practice settings: community practice, institutional practice, managed care organizations, government service, etc. In order to accomplish this objective, the school offers two degree programs: (1) a four-year baccalaureate in pharmaceutical sciences degree, and (2) an advanced professional two-year Doctor of Pharmacy degree. Previous attainment of a B.S. in Pharmacy from this or another American Council on Pharmaceutical Education (ACPE) accredited School of Pharmacy or of a B.S. in Pharmaceutical Sciences (practice track) from this institution is prerequisite for admission into the Doctor of Pharmacy program. The Doctor of Pharmacy degree is available to practitioners possessing a B.S. in Pharmacy using both traditional and nontraditional instructional methodologies.

The Bachelor of Science in Pharmaceutical Sciences is not a practice degree, nor does it entitle one to sit for licensure examination. This degree provides the academic preparation for admission into either the Doctor of Pharmacy program, a graduate

degree program in the biomedical or pharmaceutical sciences, a professional school, e.g., medicine or law, or a pharmaceutical science or pharmacy-related career path, e.g., pharmaceutical marketing and management, or environmental toxicology.

The University of Mississippi School of Pharmacy is committed to encouraging diversity in its student body and to graduating professionals dedicated to the delivery of compassionate pharmaceutical care to all segments of the diverse population in their communities. The school's goals are developed to ensure that this commitment is manifested in all aspects of student life so that students are provided access to educational opportunities and social programs that are free from bias. The school expects that all students, faculty, and staff will be treated fairly without regard to race, age, color, gender, religion, national origin, sexual orientation, marital status, handicapped status, or veteran status.

## **RESEARCH AND SERVICE**

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Research activities are conducted within each academic department and in the Research Institute of Pharmaceutical Sciences. The Bureau of Pharmaceutical Services is responsible for the service activities of the School of Pharmacy.

**Research Institute of Pharmaceutical Sciences** • The Research Institute of Pharmaceutical Sciences (RIPS) was chartered by the Mississippi Legislature in 1964 and exists within the organizational structure of the School of Pharmacy at The University of Mississippi. The Research Institute is organized around the efforts of a core of full-time research faculty. In addition, the academic faculty of the School of Pharmacy may have part-time appointments in the institute. Activities of the institute are conducted through the National Center for Natural Products Research (listed below), as well as the Center for Pharmaceutical Marketing and Management (listed below).

**National Center for Natural Products Research** • The mission of the National Center for Natural Products Research is to improve human health and agricultural productivity through the discovery, development, and commercialization of natural products or derivatives as pharmaceuticals and agrochemicals. The national center conducts basic and applied multidisciplinary research and educational activities in two major programmatic areas: the discovery of potential new drugs for certain infectious diseases, cancer, and immune and inflammatory diseases, and the development of phytomedicines as therapeutic agents. Additionally, the national center conducts research related to the development of medicinal plants as alternative crops for U.S. farmers.

**Center for Pharmaceutical Marketing and Management** • The Center for Pharmaceutical Marketing and Management promotes efficiency and effectiveness in the marketing and management of pharmaceutical products and services in all segments of the industry. Through a unique strategic alliance between the School of Pharmacy and the School of Business Administration, the Center for Pharmaceutical Marketing and Management applies The University of Mississippi's distinctive competencies to focused research and innovative educational programs involving health care. The Center for Pharmaceutical Marketing and Management is committed to supporting education at all levels—undergraduate, graduate, and practicing professionals. The center also provides an environment where business and education can come together to exchange real-world research ideas, results, and information. Past, present, and future research includes both applied and theoretical projects in an environment that encourages mutual interaction between industry professionals and the staff and students in the center. An open exchange of ideas, collaboration on

development of solutions to problems, and dissemination of the findings will be the result. The programs of the center include: Pharmaceutical Marketing and Management Research, Pharmacy Entrepreneurship, and Pharmosaic (a pharmaceutical marketing workforce diversity initiative).

**Bureau of Pharmaceutical Services** • The Bureau of Pharmaceutical Services serves Mississippi and the nation by accumulating and disseminating pharmaceutical information to pharmacists, pharmacies, health-related professional groups, and other persons associated with the drug industry. Any pharmaceutical organization desiring to gather or to supply such information may use this service. The bureau is recognized nationally as an ACPE-accredited provider of continuing pharmaceutical education. The bureau coordinates all continuing professional education activities, including curricular-based certification programs offered by the School of Pharmacy. In addition, the bureau maintains a placement service for Mississippi pharmacists.

## **ACCREDITATION**

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The School of Pharmacy holds membership in the American Association of Colleges of Pharmacy, an organization of the colleges of pharmacy of the United States, the object of which is to promote pharmaceutical education and research.

The Doctor of Pharmacy program was fully accredited in 2000 by the American Council on Pharmaceutical Education, 311 West Superior Street, Suite 512, Chicago, Illinois 60610; (312) 664-3575, (800) 533-3606; or fax (312) 664-4652.

All 2004 graduates of the Doctor of Pharmacy program passed the national board exam on their initial attempt. Furthermore, all graduates seeking such employment were employed as practitioners. The Doctor of Pharmacy graduation rate approximates 98 percent of students admitted to the P5 year.

## **MISSISSIPPI PHARMACY LAW**

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**Registered Pharmacists** • For the information of prospective pharmacists, the Mississippi Pharmacy Practice Act, enacted by the Mississippi Legislature in 1983, requires that all practitioners obtain a license prior to engaging in the practice of pharmacy.

To obtain a license the applicant shall:

1. Have submitted a written application on the form prescribed by the board;
2. Be of good moral character;
3. Have graduated and received a degree from a program of a school or college of pharmacy accredited by the American Council on Pharmaceutical Education;
4. Have successfully passed an examination given by the board;
5. Have submitted documented evidence of the required practical experience;
6. Have paid the initial licensure fee.

Every prospective registrant must be a B.S. in Pharmacy or Doctor of Pharmacy graduate of a recognized school or college of pharmacy before the registrant may be permitted to take the NAPLEX examination given by the State Board of Pharmacy for registration as a registered pharmacist. The Mississippi State Board of Pharmacy, consisting of seven members who are practicing pharmacists, is charged with the general administration of the laws regulating the practice of pharmacy. Transactions

with the Board of Pharmacy are effected through the office of the secretary and executive officer, 625 North State Street, Second Floor, Jackson, Mississippi 39202.

**Registered Pharmacy Students** • All students who want to receive the Doctor of Pharmacy degree from the University and who are in their P3, P4, P5, or P6 curriculum are required to register as an extern/intern with the Mississippi State Board of Pharmacy.

## **RECIPROCITY**

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Graduates of the Doctor of Pharmacy programs are eligible to become licensed as pharmacists by examination in all states, the District of Columbia, and Puerto Rico. Graduates of this school who become licensed by examination in Mississippi are eligible to become licensed by reciprocity in the District of Columbia, Puerto Rico, and all states except California and Florida, provided they have acquired the requisite pharmacy practice experience.

## **INSTRUCTIONAL FACILITIES**

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The School of Pharmacy is located in Faser Hall, a four-story structure comprising one of the units of the University Sciences Center, and in the Thad Cochran Research Center. These facilities contain classrooms, laboratories, offices, and equipment used by the departments of Medicinal Chemistry, Pharmaceutics, Pharmacognosy, Pharmacology, Pharmacy Practice, and Pharmacy Administration, as well as the Research Institute of Pharmaceutical Sciences, including the National Center for Natural Products Research. Students complete the last two years of the four-year B.S. in Pharmaceutical Sciences program on the Oxford campus. The majority of classes in the curriculum are held in technologically advanced auditoria complete with network connections and the ability for teleconference. Rooms dedicated for small group interaction are network ready and contain a variety of technologies used to enhance learning. Two additional years of education are required to obtain the Doctor of Pharmacy degree. The final four semesters of instruction in the Doctor of Pharmacy program are conducted off-campus at The University Medical Center in Jackson and at other instructional and professional practice sites.

**Jackson** • Clinical and problem-based instruction is provided in Jackson at The University of Mississippi Medical Center (UMMC) and the Jackson Medical Mall. The pharmaceutical care course sequence is conducted at the Medical Mall, which is an 800,000-square-foot facility in central Jackson dedicated to providing ambulatory health delivery services to the community. The University Hospital and Clinic is a 593-bed major teaching site for all UMMC educational programs. In addition to the UMMC facilities, numerous other practice sites throughout Mississippi and the Memphis area are used in the experiential portion of the curriculum.

**The Science Library** • Located in the Thad Cochran Research Center, this library combines the holdings of the former chemistry and pharmacy libraries. The library provides information and library services to the faculty, students, and staff of the School of Pharmacy, the Chemistry and Biochemistry Department, and others in the University and Oxford communities. Over 65,000 volumes and 375 serials are held. Computer hookups to the Internet, e-mail, and other electronic resources are provided to each of the 100 seats in the library. Three group student/conference rooms are available. Access is available to more than 100 computer databases, including

MEDLINE, International Pharmaceutical Abstracts, 15 full-text journals, and Drug Information Scholar; Lexis-Nexis Universe; ARGICOLA; Dialog@Carl; EbscoHost; and FirstSearch, most of which are available both on and off campus. Innovative Interfaces circulation and public access catalogs allow both on- and off-campus access to the collections. Services provided include reference, bibliographic instruction, interlibrary loan, circulation, reserve, and photocopy services. The Web pages of the Science Library and the Williams Library provide reference, interlibrary loan, and other services to off-campus users. The library is open 24 hours a day from 1 p.m. Sunday to 11 p.m. Friday and 10 a.m.-4 p.m. Saturday during regular semesters.

## **FINANCIAL AID**

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Information on general financial aid programs is listed in the financial aid section of the University catalog. Inquiries about general financial aid should be directed to the Director of Financial Aid, The University of Mississippi, P.O. Box 1848, University, Mississippi 38677-1848. In addition, scholarships and loans are available specifically to students in the School of Pharmacy. Although School of Pharmacy scholarships are used for recruitment of exceptional early-entry and transfer students, the distribution of these funds is primarily based on academic performance in the professional program. Formal application for these scholarships is not necessary. Students in the B.S. in Pharmaceutical Sciences marketing and management track also are eligible for scholarships provided by Pfizer Pharmaceuticals, Healthcare Marketing and Communications Council, and the Perrigo Corporation. Questions concerning scholarships and loans available only to pharmacy students should be directed to the School of Pharmacy associate dean for academic and student affairs. Scholarship policies are described in detail in the *School of Pharmacy Student Handbook* found online at [www.pharmacy.olemiss.edu](http://www.pharmacy.olemiss.edu).

## **AWARDS**

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In addition to awards generally available to outstanding University students, the following honors and awards are offered to students in the School of Pharmacy's professional programs.

The MEDICINAL CHEMISTRY AWARD is given for outstanding scholastic achievement in medicinal chemistry.

The PHARMACEUTICS AWARD is given for outstanding scholastic achievement in pharmaceuticals.

The PHARMACOGNOSY AWARD is given for outstanding scholastic achievement in pharmacognosy.

The PHARMACOLOGY AWARD is given for outstanding scholastic achievement in pharmacology.

The PHARMACY ADMINISTRATION AWARD is given for outstanding scholastic achievement in pharmacy administration.

The AMERICAN SOCIETY OF HEALTH-SYSTEM PHARMACISTS STUDENT LEADERSHIP AWARD AND SCHOLARSHIP is awarded to a student who has demonstrated leadership and scholarship with a focus on institutional pharmacy practice.

The AMERICAN PHARMACISTS ASSOCIATION—ACADEMY OF STUDENTS OF PHARMACY MORTAR AND PESTLE PROFESSIONAL AWARD is presented to the student who has exhibited the ideals of professionalism and excellence in patient care, and who has demonstrated exceptional service and commitment to the profession of pharmacy through involvement in professional organizations and other extracurricular learning opportunities.

The ELI LILLY AND COMPANY AWARD FOR LEADERSHIP is awarded to the graduating Bachelor of Science in Pharmaceutical Sciences student who has demonstrated outstanding leadership within the School of Pharmacy and its organizations.

The FACTS AND COMPARISONS EXCELLENCE IN CLINICAL COMMUNICATIONS AWARD is presented to a student who has demonstrated outstanding verbal and written clinical communication skills, as well as high academic achievement.

The GLAXOSMITHKLINE FOR EXCELLENCE IN CLINICAL PHARMACY AWARD is presented to a student who has demonstrated superior performance in patient care skills during the experiential component of the Doctor of Pharmacy program.

The MERCK AND COMPANY AWARD FOR SCHOLARSHIP is awarded to students who have achieved the highest grade-point average during the final two years of the Bachelor of Science in Pharmaceutical Sciences degree program.

The MYLAN INSTITUTE OF PHARMACY EXCELLENCE IN PHARMACY AWARD is presented to a graduating Doctor of Pharmacy student who has demonstrated high academic achievement and a strong commitment to the profession of pharmacy.

The PFIZER U.S. PHARMACEUTICALS AWARD FOR LEADERSHIP is presented to the graduating Doctor of Pharmacy student who has demonstrated outstanding leadership within the School of Pharmacy and its organizations, as well as to the University.

The ROCHE LABORATORIES PHARMACY COMMUNICATIONS AWARD is in recognition of effective pharmacist-patient communication skills as a vital aspect of pharmacists' service to their patients and community.

The SCHOOL OF PHARMACY AWARD FOR SCHOLARSHIP is presented to the student for achieving the highest grade-point average during the final four years of the professional program of the School of Pharmacy leading to the Doctor of Pharmacy degree.

The SCHOOL OF PHARMACY HALL OF FAME award, chosen by the graduating classes, recognizes significant contribution to the school, both scholastically and professionally. Two Hall of Fame members are selected from the Pharm.D. graduating class and when appropriate, one from the B.S. in Pharmaceutical Sciences graduating class (nonpractice track).

The TEVA PHARMACEUTICALS NON-PRESCRIPTION DRUG THERAPY AWARD is presented to the student who has demonstrated high academic achievement in the study of non-prescription drug therapy.

The USPHS EXCELLENCE IN PUBLIC HEALTH PHARMACY PRACTICE AWARD is presented to the student who has demonstrated exceptional commitment to providing pharmaceutical care to medically underserved populations.

## **PROFESSIONAL ORGANIZATIONS**

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Students enrolled in the professional pharmacy program (P1 through P6) have the opportunity to become affiliated with various national professional pharmacy organizations, including chapters of the Academy of Students in Pharmacy (ASP) of the American Pharmaceutical Association, National Community Pharmacists Association, Academy of Managed Care Pharmacy, American Society of Health-Systems Pharmacists, and the National Pharmaceutical Association. The school also has chapters of the three professional fraternities: Kappa Psi, Phi Delta Chi, and Kappa Epsilon; a chapter of the Rho Chi Society, the pharmacy honorary society; and Phi Lambda Sigma, the pharmacy leadership society. These organizations provide opportunities for professional development, involvement in service projects, and attainment of leadership skills.

## **HONOR SYSTEM**

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The pharmacist occupies a position of great trust and responsibility in fulfilling duties in safeguarding the health of the citizens of the community. In order to foster the highest ideals of professional ethics, students enrolled in the School of Pharmacy adhere to an honor system that regulates their conduct during professional course work and examinations. Any case involving an infraction of the provisions of the honor system is adjudicated by a judicial council composed of student members elected by their classmates and under the chairmanship of the president of the School of Pharmacy Student Body. Prior to implementation, disciplinary decisions of this council are referred for review to the dean of the School of Pharmacy.

## **STUDENT ACCESS TO RECORDS**

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Students have certain rights of access to their records. See the *M Book* for details.

## **DEGREE PROGRAMS**

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(More detailed information regarding the undergraduate/professional program is available in the *School of Pharmacy Student Handbook* located online at [www.pharmacy.olemiss.edu](http://www.pharmacy.olemiss.edu).)

A hallmark of the pharmacy profession is the trusting relationship between the pharmacist and his or her patients. That relationship is sustained by a commitment to the highest levels of professionalism. All students enrolled in the School of Pharmacy are expected to adopt and reflect the characteristics of a professional, which include integrity, empathy, fairness, responsibility, and a commitment to ethical behavior. In addition, students will demonstrate respect for peers, faculty, and staff of the school and exhibit a high level of maturity that reflects their status as a member of the greater pharmacy community. To further emphasize the commitment to professionalism, the school conducts a White Coat Ceremony for entering students signifying the beginning of their professional education. At that time, students sign a Pledge of Professionalism.

### **I. BACHELOR OF SCIENCE IN PHARMACEUTICAL SCIENCES PROGRAM**

All undergraduate students entering the School of Pharmacy will be admitted into the B.S. in Pharmaceutical Sciences program. This is a four-year degree consisting of two years of pre-professional education followed by two years of professional courses, culminating in the awarding of the baccalaureate degree. This degree does not provide eligibility to sit for the licensure examination for pharmacy practice.

#### **Technical Standards for Pharmacy School Admission**

Candidates for the Bachelor of Science in Pharmaceutical Sciences and Doctor of Pharmacy degrees must be able to perform the essential functions in each of the following categories: observation, communication, motor, intellectual, and behavioral/social. However, it is recognized that degrees of ability vary among individuals.

If you feel you are unable to meet these technical standards you are encouraged prior to application to discuss your disability with the executive director of Equal Opportunity and Regulatory Compliance at The University of Mississippi to determine whether or not reasonable accommodations can be made.

The University of Mississippi School of Pharmacy is committed to enabling its students by any reasonable means or accommodations to complete the course of study leading to the B.S.P.S. and Doctor of Pharmacy degrees.

### 1. Observation

All candidates must be able to:

- Observe lectures, demonstrations, experiments, and practice-based activities.
- Observe physiological and pharmacological demonstrations, evaluation of microbiological cultures, and microscopic studies of organisms and tissues in normal and pathological states.
- Observe a patient accurately at a distance and close at hand.
- Read information on a computer screen.
- Remain fully alert and attentive at all times in clinical settings.

Additionally, candidates for the Doctor of Pharmacy degree must be able to evaluate visible patient signs and symptoms for the purposes of monitoring drug therapy.

### 2. Communication

All candidates must be able to:

- Communicate effectively, sensitively, and rapidly with patients, caregivers, and members of the health care team.
- Speak, listen, read, and write in the English language.
- Effectively communicate with instructors and peers.

Additionally, candidates for the Doctor of Pharmacy degree must be able to:

- Communicate with health care practitioners specifically in reviewing and recommending verbal and written drug therapy orders.
- Elicit information from patients, describe changes in mood, activity and posture, and perceive nonverbal communications.

### 3. Psychomotor Skills

All candidates must be able to:

- Have sufficient motor function to execute all aspects of processing multiple types of drug orders and compounding of medications.
- Engage in safe and aseptic handling of sterile preparations.
- Safely and effectively operate appropriate equipment (e.g., microscope, typewriter, glucose monitors, peak flow meters).

Additionally, candidates for the Doctor of Pharmacy degree must be able to engage in basic physical assessment activities including palpation, auscultation, percussion, and other diagnostic maneuvers.

### 4. Intellect

All candidates must be able to:

- Comprehend three-dimensional relationships and understand the spatial relationships of structures.
- Solve problems involving measurement, calculation, reasoning, analysis, synthesis, and evaluation rapidly in a multi-task setting.
- Synthesize knowledge and integrate the relevant aspects of a patient's history, physical findings and monitoring studies.

Additionally, candidates for the Doctor of Pharmacy degree must be able to use information to develop a drug therapy and monitoring plan in a reasonable amount of time.

## 5. Behavioral and Social Attributes

All candidates must be able to:

- Possess the emotional health required for full use of their intellectual abilities, the exercise of good judgment, and the prompt and safe completion of all responsibilities.
- Adapt to change, to display flexibility and to learn to function in the face of uncertainties and stressful situations.
- Possess compassion, integrity, interpersonal skills, motivation, empathy, and concern for others.
- Demonstrate ethical behavior.
- Function effectively in situations of physical and emotional stress.
- Accept appropriate suggestions and criticism and, if necessary, respond by modification.

Additionally, candidates for the Doctor of Pharmacy degree must be able to:

- Exercise good judgment and prompt completion of all responsibilities involved in the pharmaceutical care of patients.
- Have the capacity to develop mature, sensitive, and effective relationships with patients.

Admission into this degree program can occur in the fall of the freshman year, i.e., "Early Entry," but more typically after completion of the two-year pre-pharmacy curriculum at The University of Mississippi or other accredited institution, i.e., "Regular Entry."

### A. EARLY ENTRY

Students granted early-entry status must enroll as freshmen on the Oxford campus. If these students abide by the progression and retention criteria detailed below, they will receive the B.S. in Pharmaceutical Sciences at the end of their fourth year and will be admitted into the Doctor of Pharmacy program or School of Pharmacy Ph.D. program of their choice.

The Early Entry Program provides the opportunity to engage in both professional and personal relationships with School of Pharmacy faculty and upper-classmen immediately upon entering the University, rather than after completing the normal two-year pre-pharmacy program.

Through the program, pharmacy students may take professional courses in their second year of college and reduce the rigor of the third year. Third-year performance is a major criterion for acceptance into the final two years of the Doctor of Pharmacy program. As a result of taking required professional courses in the second year, early-entry students have the opportunity to take professional electives in their third and fourth years, which is an opportunity not shared by regular-entry students.

Early-entry students avoid the competitive selection process for admission to the B.S. in Pharmaceutical Sciences program following completion of the pre-pharmacy curriculum.

Early-entry students are eligible for School of Pharmacy scholarships unavailable to pre-pharmacy students and may participate in professional student organizations earlier in their collegiate careers.

#### 1. Criteria for Early Entry

Early entry into the B.S. in Pharmaceutical Sciences program is offered annually to a maximum of 50 outstanding high school seniors. Applicants who wish to be considered for early-entry status must meet the following minimum criterion:

$$\text{Best Composite ACT Score} + (\text{GPA for grades 10, 11, and 12} \times 10) > 65$$

**Note:** A minimum ACT score of 25 is required; SAT scores will be converted to the equivalent ACT score; GPA is based on a 4.0 scale; weighted GPAs will be used when provided by the high school.

Final consideration regarding candidates for early entry will rely on review of additional criteria, including an interview, written essay, and evaluation of scholastic and nonscholastic extracurricular and service activities and employment history. The composite admissions score is based on the following formula with 156 points being the maximum possible.

ACT + 10 x GPA	76 (assuming ACT of 36 and 4.0 GPA)
Interviews	40
Essay	25
Extracurricular Activities	15
Total Possible	156

Based on the composite admissions score, the top 10 students will receive an offer of a \$1,000 Early Entry Scholarship that is in addition to any other University award. Admission preference is given to Mississippi residents. However, application by non-Mississippi residents is encouraged with no residency preference being given to the top 25 applicants.

Eligible applicants not chosen for membership in the Early Entry class and who attend The University of Mississippi may be provided the opportunity to join the Early Entry program at the conclusion of either the fall or spring semester of the freshman year. The extension of such an offer is dependent on student attrition from the Early Entry program. Offers would be restricted to students having enrolled in a minimum of 15 hours and who have successfully completed the English, chemistry, and biology courses taken by Early Entry freshmen. Priority would be given to those students having the highest GPA on these and additional required Early Entry courses completed, with a minimum requirement of 3.25.

Students accepted for admission are required to submit a nonrefundable \$300 seat deposit to reserve their seat in the P1 class. Failure to submit the deposit, which will be credited to their tuition charges, by the announced deadline, will result in deselection.

## 2. Application Process

For consideration for early entry, qualified students must submit by February 1 a School of Pharmacy application and original transcript of all high school work completed through the fall semester of their senior year with indication of ACT (SAT) scores to this address: Associate Dean for Academic and Student Affairs, School of Pharmacy, The University of Mississippi, University, Mississippi 38677-1848. Students are encouraged at the time of Early Entry application to submit separate official transcripts and a University application to the University Admissions Office. Applicants must submit a nonrefundable application fee of \$50 (cashier's check made payable to The University of Mississippi School of Pharmacy) with the School of Pharmacy application. When applying to the University, applicants should list "pre-pharmacy" as their major under the School of Pharmacy listing.

## 3. Progression and Retention Criteria for Students in the Early Entry Program

In order to retain status as an early-entry student, the following conditions must be met:

- a. Continuous enrollment at The University of Mississippi (excluding summer terms) with completion of a minimum of 15 hours in each regular semester session.
- b. All required courses must be taken at The University of Mississippi in the sequence defined by the curriculum and completed by the end of the fourth year in the program. These must be taken during the fall and spring semesters. Any exception must have prior approval by the Scholastic Standards Committee. Elective courses may be taken at other institutions and/or during the summer.
- c. Minimum GPA (calculated using only the first grade reported) of 3.5 on all required courses through the spring semester of the first year (P1). Students who achieve a 3.25-3.49 will be placed on probationary status for the P2 year. They will retain all rights and privileges of early-entry status except they will lose school-sponsored early-entry scholarships. For early-entry students simultaneously enrolled in the Honors College, grades obtained in Honors 101 and 102 will be used in the calculation of this GPA. Students enrolled in formally designated honors sections of courses required of early-entry students will receive 5, 4, and 3 points respectively for an A, B, or C rather than the typical 4, 3, and 2 practice used in routine GPA calculations within the Early Entry Program.
- d. Minimum GPA (calculated using only the first grade reported) of 3.25 on all required courses through the spring semester of the second year (P2).
- e. Minimum GPA (calculated using only the first grade reported) of 3.0 on all required courses through the spring semester of the third year (P3).
- f. A grade of D or F in a required course will result in automatic dismissal from the Early Entry Program.
- g. A minimum composite PCAT score of at least the 50th percentile must be achieved prior to the end of the spring semester of the second year (P2).
- h. Early Entry graduates of the B.S. program who desire admission into a Ph.D. program also must meet all requirements for admission into the graduate program of the selected department. Acceptance into a Ph.D. program does not guarantee graduate stipend support.

Students who fail to maintain these criteria cannot regain early-entry status and will lose privileges of Early-Entry status. If they desire to later be readmitted to Pharmacy School, they will be classified as pre-pharmacy students and must reapply as Regular Entry applicants.

#### 4. Curriculum

##### FIRST YEAR (P1)

First Semester	Hours	Second Semester	Hours
Liberal Arts 102 (English 101)	3	English 101 (Liberal Arts 102)	3
General Chemistry 105, 115	4	General Chemistry 106, 116	4
Biology 160, 161	4	Biology 162, 163	4
Speech 105 or 102	3	**Calculus I (MATH 261)	3
*Electives (nonprofessional)	3	*Electives (nonprofessional)	3
Total	17	Total	17

**SECOND YEAR (P2)**

<b>First Semester</b>	<b>Hours</b>	<b>Second Semester</b>	<b>Hours</b>
Organic Chemistry 221, 225	4	Organic Chemistry 222, 226	4
Statistics (MATH 115 or PSY 202)	3	Pharmaceutical Physics (PHYS 215)	4
Economics 202	3	Pharmacy Administration II (PHAD 392)	3
Pharmacy Administration I (PHAD 391)	3	Pharmacy Ethics (PHIL 326)	1
Pharmacy Orientation (PRCT 350)	1	*Electives (nonprofessional)	6
Pharmaceutical Calculations (PHAR 330)	2		
*Electives (nonprofessional)	3		
<b>Total</b>	<b>19</b>	<b>Total</b>	<b>18</b>

\*Nonprofessional electives are to be taken as follows: 6 hours social or behavioral sciences (psychology, sociology, political science, economics, journalism, and social work), 9 hours of humanities (classics, African American studies, gender studies, Southern studies, English, history, modern languages, religion, and philosophy) and fine arts (art, music, and theatre arts) with a minimum of 3 hours in each of these two general areas. Performance courses are acceptable for satisfying the fine arts requirement. For students enrolled in the Honors College, credit obtained in Honors 101-102 will count toward fulfillment of the elective requirement in humanities and in the early-entry GPA. Although quality grades for elective courses are recorded, they are not included in the computation of the grade-point average (GPA) utilized in admissions, progression, or school scholarship decisions. In all cases, only the grades on "required" courses are used. Elective courses should be chosen on the basis of (1) student's likes and interests, and (2) potential contribution to professional success, rather than a lack of academic rigor.

\*\*Lower-level math courses will not provide elective credit (algebra, trigonometry). Elective credit will be accepted for precalculus.

**THIRD YEAR (P3)**

<b>First Semester</b>	<b>Hours</b>
Human Physiology/Pathophysiology I (PHCL 341)	5
Basic Pharmaceutics I (PHAR 331)	4
Biochemical Foundations of Therapy (PHCL 343)	3
Professional Communications in Pharmacy (PHAD 490)	2
Electives (professional)	3
<b>Total</b>	<b>17</b>
<b>Second Semester</b>	
Human Physiology/Pathophysiology II (PHCL 342)	4
Basic Pharmaceutics II (PHAR 332)	4
Pharmacogenetics and Pharmacoinmunology (MEDC 317)	3
Principles of Medicinal Chemistry (MEDC 314)	3
Laboratory Principles of Medicinal Chemistry (MEDC 315)	1
<b>Total</b>	<b>15</b>

**STUDENTS DESIRING TO COMPLETE THE PRACTICE TRACK IN THE B.S. IN PHARMACEUTICAL SCIENCES DEGREE PROGRAM AND TO THEN COMPLETE THE PHARM.D. PROGRAM WILL BE REQUIRED TO COMPLETE TWO TWO-WEEK FULL-TIME ROTATIONS, PRCT 475 AND PRCT 476 PRIOR TO THE P4 YEAR. THESE EXPERIENCES WILL NORMALLY OCCUR AT A TRADITIONAL COMMUNITY AND TRADITIONAL INSTITUTIONAL PRACTICE SITE, ALTHOUGH ONE ROTATION CAN OCCUR AT A NONTRADITIONAL SITE. HOWEVER BOTH ROTATIONS**

**CANNOT OCCUR IN EITHER TRADITIONAL COMMUNITY, TRADITIONAL INSTITUTIONAL, OR NONTRADITIONAL SITES. ENROLLMENT CAN OCCUR EITHER DURING AN INTERSESSION OR DURING THE SUMMER. EACH OF THESE COURSES IS ONE CREDIT HOUR. REQUESTS FOR DEFERRAL OF COMPLETION OF THESE EXPERIENCES MUST BE APPROVED IN ADVANCE BY THE SCHOLASTIC STANDARDS COMMITTEE.**

#### **FOURTH YEAR (P4)**

**Practice track curriculum for those who wish to pursue the Doctor of Pharmacy degree**

<b>First Semester</b>	<b>Hours</b>
Basic and Clinical Pharmacology I (PHCL 443)	4
Medicinal Chemistry of Therapeutic Agents I (MEDC 411)	3
Pathogenesis and Etiology of Infectious Diseases (PHCG 421)	3
Pharmacy Practice I (PRCT 450)	2
Management (PHAD 493)	4
Electives (professional)	3
<b>Total</b>	<b>19</b>
<b>Second Semester</b>	
Basic and Clinical Pharmacology II (PHCL 444)	4
Medicinal Chemistry of Therapeutic Agents II (MEDC 412)	3
Natural Product-derived Pharmaceuticals (PHCG 422)	4
Biopharmaceutics-Pharmacokinetics (PHAR 434)	3
Pharmacy Practice II (PRCT 451)	2
Pharmacy Practice III (PRCT 452)	1
Pharmacy Law (PHAD 491)	2
<b>Total</b>	<b>19</b>

#### **B. REGULAR ENTRY**

For consideration for admission into the B.S. in Pharmaceutical Sciences program of the School of Pharmacy, qualified students must submit to the School of Pharmacy a School of Pharmacy application no later than February 1. Applicants who are not University of Mississippi students must also submit a separate University application to the Admissions Office of the University. The School of Pharmacy application must be submitted in conjunction with official college transcripts listing all pre-pharmacy course work attempted through the fall semester preceding the February application date. Transcripts for the spring semester are to be submitted as soon as possible after completion of spring courses. Applications will be reviewed and final decisions regarding admissions made by June 15.

Applicants must submit a nonrefundable application fee of \$50 (cashier's check made payable to The University of Mississippi School of Pharmacy) with the School of Pharmacy application. When applying to the University, applicants should list "pre-pharmacy" as their major under the School of Pharmacy listing.

Requests to transfer from students in good academic standing in professional programs at other ACPE-accredited schools of pharmacy will be considered on an individual basis. Such transfer can only occur prior to the beginning of the P4 year. If approved, the student may require one or two semesters, in addition to the P4 year as described below, to complete the B.S. in Pharmaceutical Sciences curriculum given the uniqueness of course sequencing in the different schools of pharmacy.

## 1. Admission Criteria

The minimum requirements for regular admission to the B.S. in Pharmaceutical Sciences program are as follows:

- a. Successful completion of all pre-pharmacy requirements. To be assured of consideration for admission, all required courses should be completed no later than the end of the spring semester during which formal application is submitted. Written requests for an exception to this policy must be submitted at the time of application. Requests to repeat a course resulting from failure to obtain a grade of C or better on prior course attempts will not be approved. All required and elective courses must be completed prior to enrollment in School of Pharmacy courses.
- b. A cumulative GPA (calculated on all grades earned) of at least 2.75 on all required pre-pharmacy courses (excluding electives in humanities, fine arts, and social sciences). Applicants completing chemistry, biology, or physics requirements more than five years prior to the February 1 application date must retake these courses unless they have been employed using discipline knowledge. For these applicants only, the initial grade received will not be calculated in the GPA used for admissions purposes. Otherwise ALL grades received in required pre-pharmacy courses will be computed in calculating the GPA. The only exception is students who utilize The University of Mississippi Forgiveness Policy. For applicants enrolled in The University of Mississippi Honors College, grades obtained in HONORS 101 and 102 will be used in the calculation of this GPA. Students receiving credit in formally designated Honors sections of required pre-pharmacy courses as well as for HONORS 101 and 102 will receive 5, 4, and 3 points respectively for an A, B, or C rather than the typical 4, 3, and 2 points used in routine GPA calculations.
- c. Grades of at least C in each of the required pre-pharmacy courses.
- d. Submission of an official score on the Pharmacy College Admission Test (PCAT) taken no more than 12 months prior to the application deadline. If multiple scores are submitted, the highest composite score achieved on a test taken no more than 12 months prior to the application deadline will be used. **A minimum composite percentile score of 40 is required to receive consideration for admission.**
- e. To be assured of consideration for admission to the B.S. in Pharmaceutical Sciences program, a completed School of Pharmacy application and all appropriate transcripts of pre-pharmacy academic work must be received no later than February 1. Scores from PCATs taken prior to the application deadline, but made available after the application deadline will be utilized. Students will be admitted on the basis of a composite admissions score determined by the following formula.

Maximum GPA on required pre-pharmacy courses (all grades inclusive)	4.0
Maximum PCAT composite score [(student score-200)/400] x 2.0	2.0
Maximum Watson-Glaser Critical Thinking Appraisal score x 0.01	1.0
Evaluation of resume material submitted on standardized forms during Applicant Day: 33.3% for leadership, 33.3% for services, and	

33.3% for work experience. In case of the latter parameter, the maximum score is only awarded to those with pharmacy experience. Only data on leadership, service, and work experience occurring in the previous two years will be evaluated with the exception that all pharmacy experience will be considered.

	2.0
Total possible score	9.0

In addition, two bonus factors will be added, to the admissions score.

(1) UM factor	0.4
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In order for a student to receive benefit of the UM factor, all required pre-pharmacy courses (excluding electives in humanities, fine arts, and social sciences) must be completed at The University of Mississippi Oxford campus. College credits or exemptions from college courses earned prior to either high school graduation or fall freshman admission will not disqualify a student from the UM factor.

(2) Previous degree factor

Awarding of previous (bachelor's, master's) degree in any major from an accredited institution. The bonus will be applied if the degree is awarded no later than the end of the spring semester (or equivalent) immediately preceding enrollment in the School of Pharmacy.

	0.5
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Completion of the minimum requirements will not ensure admission into the B.S. in Pharmaceutical Sciences program. Decisions regarding admissions to the B.S. in Pharmaceutical Sciences program will be based on policies established by the faculty. Preference will be given to U.S. citizens who are either residents of Mississippi or who are non-Mississippi students who completed their pre-pharmacy work at The University of Mississippi. Applications from outstanding students who are U.S. citizens, but nonresidents of Mississippi, who completed their pre-pharmacy course work at schools other than The University of Mississippi, will be given consideration for admission.

f. Students accepted for admission are required to submit a \$300 nonrefundable seat deposit to reserve their seat in the P3 class. Failure to submit the deposit, which will be credited to their tuition charges, by the announced deadline, will result in deselection.

## 2. Progression and Retention Criteria for the B.S. in Pharmaceutical Sciences Degree Program

In order to progress in the program, a student must meet the following conditions:

- a. All required courses must be taken at The University of Mississippi in the sequence defined by the curriculum. Any exception must have prior approval by the Scholastic Standards Committee.
- b. Minimum GPA (cumulative on all grades earned) of 2.0 on required courses.

- c. A passing grade of D or better must be achieved in all required professional courses in order to progress to the next year. However, a grade of C or better is necessary to satisfy prerequisite requirements.
- d. Any student who receives a final course grade of F in two or more required courses during the two-year period will be automatically dismissed from the program. A student so dismissed can only be readmitted one time (see below) and must begin the program with the P3 fall courses and repeat all previously passed courses.
- e. No required practice track course can be taken more than two times.

Students who are academically dismissed from the B.S. in Pharmaceutical Sciences program during or at the conclusion of the P3 year can be re-admitted one time to the program. Re-admission is contingent on the individual having a composite admission score at least equal to that of the lowest ranking newly admitted student. The re-entering student would be admitted on a space-available basis in addition to the maximum number of new students accepted for admission. During the period while the student is not in the program, the student can attempt to improve his/her admission score. The re-entering student must retake all required P3 courses. Grades obtained by the dismissed student during the original enrollment in P3 courses will not be used in future GPA calculations affecting entry into the Pharm.D. or other tracks.

The same procedures would be in effect for students dismissed or voluntarily withdrawing for academic purposes during or at the conclusion of the P4 year.

Students who desire to repeat one or more, but not all, P3 or P4 courses will be admitted to these classes on a space-available basis. Prioritization for admission will be based on the existing cumulative required P3 or P4 course GPA.

Approximately 95 percent of students who enter the P3 program ultimately receive the B.S. in Pharmaceutical Sciences degree.

### 3. Curriculum

Courses listed in parentheses are the courses required for University of Mississippi pre-pharmacy students. Numbers in brackets refer to appropriate courses required of graduates of Mississippi community or junior colleges.

#### FIRST YEAR

First Semester	Hours	Second Semester	Hours
English I (ENG 101) [1113 or 1213]	3	English II (ENG 102) [1123 or 1223]	3
Gen. Chemistry I (CHEM 105, 115) [1211 and 1213, or 1214]	4	General Chemistry II (CHEM 106, 116) [1221 and 1223, or 1224]	4
+Biology I (BIOL 160, 161) [1131 and 1133, or 1134, or 1154, or 1151 and 1153]	4	+Biology II (BIOL 162, 163) [1141 and 1143, or 1144, or 1164, or 1161 and 1163]	4
Speech (SPCH 102 or 105) [1113 or 2163]	3	Calculus I (MATH 261) [1613 or 1653, or 1814]	3
*Electives ( <i>nonprofessional</i> )	3	*Electives ( <i>nonprofessional</i> )	3
Total	17	Total	17

**SECOND YEAR**

<b>First Semester</b>	<b>Hours</b>	<b>Second Semester</b>	<b>Hours</b>
Organic Chemistry I (CHEM 221, 225) [2421 and 2423, or 2424 or 2425]	4	Organic Chemistry II (CHEM 222, 226) [2431 and 2433, or 2434 or 2435]	4
Microeconomics (ECON 202) [2123]	3	Physics II (PHYS 214, 224) [2421 and 2423, or 2424]	4
Physics I (PHYS 213, 223) [2411 and 2413, or 2414]	4	Statistics (MATH 115 or PSY 202) [MATH 2323]	3
*Electives ( <i>nonprofessional</i> )	6	*Electives ( <i>nonprofessional</i> )	3
<b>Total</b>	<b>17</b>	<b>Total</b>	<b>14</b>

\*The 15 hours of nonprofessional electives must include 6 hours of social or behavioral sciences (psychology, sociology, political science, economics, journalism, and social work), and 9 hours of humanities (classics, African American studies, gender studies, Southern studies, English, history, modern languages, and religion and philosophy) and fine arts (art, music, and theatre arts) with a minimum of 3 hours in each of these two general areas. Performance course credits are acceptable for the fine arts requirement.

+A two-semester laboratory sequence required of either biology majors or of pre-med students at the institution of residence is required. The sequence must be completed at the same institution.

Although quality grades obtained in elective courses are recorded, they actually have no effect on a student's admission into the professional program, progression through the program, or graduation from the school. In all cases, only the grades on "required" courses are computed. Elective courses should be chosen on the basis of (1) student's likes and interests, and (2) potential contribution to professional success rather than lack of academic rigor.

**THIRD YEAR (P3)**

<b>First Semester</b>	<b>Hours</b>
Human Physiology/Pathophysiology I (PHCL 341)	5
Basic Pharmaceutics I (PHAR 331)	4
Biochemical Foundations of Therapeutics (PHCL 343)	3
Pharmacy Administration I (PHAD 391)	3
Pharmaceutical Calculations (PHAR 330)	2
Pharmacy Orientation (PRCT 350)	1
<b>Total</b>	<b>18</b>
<b>Second Semester</b>	<b>Hours</b>
Human Physiology/Pathophysiology II (PHCL 342)	4
Basic Pharmaceutics II (PHAR 332)	4
Pharmacogenetics and Pharmacoinmunology (MEDC 317)	3
Principles of Medicinal Chemistry (MEDC 314)	3
Laboratory Principles of Medicinal Chemistry (MEDC 315)	1
Pharmacy Administration II (PHAD 392)	3
Pharmacy Ethics (PHIL 326)	1
<b>Total</b>	<b>19</b>

**STUDENTS DESIRING TO COMPLETE THE PRACTICE TRACK IN THE B.S. IN PHARMACEUTICAL SCIENCES DEGREE PROGRAM AND TO THEN COMPLETE THE**

**PHARM.D. PROGRAM WILL BE REQUIRED TO COMPLETE TWO TWO-WEEK FULL-TIME ROTATIONS, PRCT 475 AND PRCT 476 PRIOR TO THE P4 YEAR. THESE EXPERIENCES WILL NORMALLY OCCUR AT A TRADITIONAL COMMUNITY AND TRADITIONAL INSTITUTIONAL PRACTICE SITE, ALTHOUGH ONE ROTATION CAN OCCUR AT A NONTRADITIONAL SITE. HOWEVER BOTH ROTATIONS CANNOT OCCUR IN EITHER TRADITIONAL COMMUNITY, TRADITIONAL INSTITUTIONAL, OR NONTRADITIONAL SITES. ENROLLMENT CAN OCCUR EITHER DURING AN INTERSESSION OR DURING THE SUMMER. EACH OF THESE COURSES IS ONE CREDIT HOUR. REQUESTS FOR DEFERRAL OF COMPLETION OF THESE EXPERIENCES MUST BE APPROVED IN ADVANCE BY THE SCHOLASTIC STANDARDS COMMITTEE.**

#### FOURTH YEAR (P4)

##### a. Practice Track

**Practice track curriculum for those who wish to pursue the Doctor of Pharmacy degree**

<b>First Semester</b>	<b>Hours</b>
Basic and Clinical Pharmacology I (PHCL 443)	4
Medicinal Chemistry of Therapeutic Agents I (MEDC 411)	3
Pathogenesis and Etiology of Infectious Diseases (PHCG 421)	3
Pharmacy Practice I (PRCT 450)	2
Management (PHAD 493)	4
Professional Communication in Pharmacy (PHAD 490)	2
Total	18
<b>Second Semester</b>	
Basic and Clinical Pharmacology II (PHCL 444)	4
Medicinal Chemistry of Therapeutic Agents II (MEDC 412)	3
Natural Product-derived Pharmaceuticals (PHCG 422)	4
Biopharmaceutics-Pharmacokinetics (PHAR 434)	3
Pharmacy Practice II (PRCT 451)	2
Pharmacy Law (PHAD 491)	2
Pharmacy Practice III (PRCT 452)	1
Total	19

##### b. Nonpractice Curricular Tracks

These curricula are identical to the practice track curriculum for the first three years but differ dramatically from that in the fourth year. They are designed to provide career preparation for students interested in pharmacy-related careers, e.g., research, marketing, but not desiring to become a pharmacist.

**1. Pharmaceutical Marketing/Management**—A concentration leading to the B.S. in Pharmaceutical Sciences/marketing-management consists of the successful completion of the first three years of the B.S. in Pharmaceutical Sciences curriculum followed by a minimum of 32 hours in the marketing-management track within the fourth year of the B.S. in Pharmaceutical Sciences curriculum.

Admission: Completion of the third year of the B.S. in the Pharmaceutical Sciences curriculum with a minimum GPA of 2.00 on required professional courses.

Career opportunities for students completing this track include: a) pharmaceutical sales, b) management within a pharmaceutical company, c) pharmacy management positions, d) positions in managed-care organizations, e) hospital administration, f) government agencies, g) positions in health advertising agencies, h) medical journalism, and i) graduate studies in a number of areas, including pharmacy administration.

**FOURTH YEAR (P4)  
Management Concentration  
Standard Option**

<b>First Semester</b>	<b>Hours</b>
Basic and Clinical Pharmacology I (PHCL 443)	4
Principles of Management (MGMT 371)	3
Pharmacy Management and Business Methods (PHAD 493)	4
Pharmaceutical Economics (PHAD 494)	3
Elective	3
Total	17
<b>Second Semester</b>	
Basic and Clinical Pharmacology II (PHCL 444)	4
Principles of Marketing (MKTG 351)	3
Electives	9
Total	16

**Management Concentration  
Anti-infective Option**

<b>First Semester</b>	<b>Hours</b>
Basic and Clinical Pharmacology I (PHCL 443)	4
Principles of Management (MGMT 371)	3
Pharmacy Management (PHAD 493)	4
Pharmaceutical Economics (PHAD 494)	3
Pathogenesis and Etiology of Infectious Diseases (PHCG 421)	3
Total	17
<b>Second Semester</b>	
Basic and Clinical Pharmacology II (PHCL 444)	4
Natural Product-derived Pharmaceuticals (PHCG 422)	4
Electives	9
Total	17

*Electives:*

Electives are to be selected in conference with the student's track adviser and with his/her approval. Elective hour minimums are affected by program option selected. These electives must be chosen from courses in pharmacy administration or from courses in management.

**Pharmacy Administration**

- PHAD 490 Professional Communications in Pharmacy (fall only) (2)  
 PHAD 491 Pharmacy Law (spring only) (2)  
 PHAD 495 Techniques of Pharmaceutical Sales (spring only) (2)  
 PHAD 541, 542 Problems in Pharmacy Administration (fall, spring) (3,3)  
 PHAD 543, 544 Seminars (fall, spring) (1,1)

**Management**

- MGMT 383 Human Resource Management (fall, spring, summer) (3)  
 MGMT 391 Organization Behavior (fall, spring, summer) (3)  
 MGMT 496 Small Business Management (3)

**FOURTH YEAR (P4)**  
**Marketing Concentration**  
**Standard Option**

**First Semester**

	<b>Hours</b>
Basic and Clinical Pharmacology I (PHCL 443)	4
Principles of Management (MGMT 371)	3
Principles of Marketing (MKTG 351)	3
Pharmaceutical Economics (PHAD 494)	3
Electives	3
Total	16

**Second Semester**

Basic and Clinical Pharmacology II (PHCL 444)	4
Principles of Pharmaceutical Marketing (PHAD 496)	3
Electives	9
Total	16

**Marketing Concentration**  
**Anti-infective Option**

**First Semester**

	<b>Hours</b>
Basic and Clinical Pharmacology I (PHCL 443)	4
Principles of Marketing (MKTG 351)	3
Pharmaceutical Economics (PHAD 494)	3
Pathogenesis and Etiology of Infectious Diseases (PHCG 421)	3
Electives	3
Total	16

**Second Semester**

Basic and Clinical Pharmacology II (PHCL 444)	4
Principles of Pharmaceutical Marketing (PHAD 496)	3
Natural Product-derived Pharmaceuticals (PHCG 422)	4
Electives	6
Total	17

*Electives*

Electives are to be selected in conference with the student's track adviser and with his/her approval. A minimum of 12 hours (3 hours in the fall semester and 9 hours in the spring semester) of electives must be selected from courses in pharmacy administration or from courses in marketing.

**Pharmacy Administration**

- PHAD 490 Professional Communications in Pharmacy (fall only) (2)
- PHAD 491 Pharmacy Law (spring only) (2)
- PHAD 493 Pharmacy Management (fall only) (4)
- PHAD 495 Techniques of Pharmaceutical Sales (spring only) (2)
- PHAD 541, 542 Problems in Pharmacy Administration (fall, spring) (3,3)
- PHAD 543, 544 Seminars (fall, spring) (1,1)

**Marketing**

- MKTG 354 Buyer-Seller Communication (3)
- MKTG 361 Introduction to Retailing (3)
- MKTG 367 Consumer and Market Behavior (3)
- MKTG 458 Sales Management (fall only) (3)
- PHAD 493 Pharmacy Management

**Other**

- BUS 230 Economic Statistics (3)

2. **Pharmaceutics**—A concentration leading to the B.S. in Pharmaceutical Sciences/pharmaceutics consists of the successful completion of the first three years of the B.S. in Pharmaceutical Sciences curriculum, followed by competitive admission to the program and completion of the fourth-year courses given below.

Admission: The number of students accepted into the pharmaceutics program is limited by department resources. Competitive admission to the program depends on:

- a) A minimum GPA of 3.0 in pharmaceutics courses and 2.0 in nonpharmaceutics pharmacy courses.
- b) A successful departmental interview.
- c) A letter of recommendation from a School of Pharmacy faculty member.

This curriculum is designed to provide the student with a broad pharmacy background with enhanced training in pharmaceutics. The analytical pharmaceutics course is a four-hour lecture/lab course that will provide the student with the basic skills needed to conduct pharmaceutics research in an industrial or university setting. The product development course will enhance the student's understanding of dosage form development. In the two-semester Problems in Pharmaceutics sequence, the student will conduct a research project under the direction of one of the department faculty, prepare monthly written progress reports, and present a seminar upon completion of the project.

Successful completion of this program should prepare a student for graduate studies in pharmaceutics or an entry-level position in the pharmaceutical industry in product development, clinical supply manufacture, or production departments.

**FOURTH YEAR (P4)**  
**Pharmaceutics Concentration**

<b>First Semester</b>	<b>Hours</b>
Basic and Clinical Pharmacology I (PHCL 443)	4
Medicinal Chemistry of Therapeutic Agents I (MEDC 411)	3
Pathogenesis and Etiology of Infectious Diseases (PHCG 421)	3
Analytical Pharmaceutics (PHAR 535)	4
Problems in Pharmaceutics (PHAR 541)	3
	17
<b>Second Semester</b>	
Basic and Clinical Pharmacology II (PHCL 444)	4
Medicinal Chemistry of Therapeutic Agents II (MEDC 412)	3
Biopharmaceutics-Pharmacokinetics (PHAR 434)	3
Product Development (PHAR 436)	3
Problems in Pharmaceutics (PHAR 542)	3
	16

**3. Natural Product Drug Discovery and Development (Pharmacognosy)**—A concentration leading to the B.S. in Pharmaceutical Sciences/natural product drug discovery and development (pharmacognosy) consists of the successful completion of the first three years in the B.S. in Pharmaceutical Sciences curriculum, followed by competitive admission to the program and a successful completion of the fourth-year curricular track as outlined below.

Admission: Competitive admission to this lecture and laboratory track is limited by the availability of space and will depend on the student meeting the specific requirements below.

- a) A minimum GPA of 2.75 obtained on all courses completed during the third year (P3) of the B.S. in Pharmaceutical Sciences curriculum or approval by the departmental faculty.
- b) A letter of application indicating the reasons for selecting this track and how it fits into the applicant's future goals along with a successful interview conducted by the departmental faculty.

**FOURTH YEAR (P4)**  
**Natural Product Drug Discovery and Development Concentration**

<b>First Semester</b>	<b>Hours</b>
Basic and Clinical Pharmacology I (PHCL 443)	4
Medicinal Chemistry of Therapeutic Agents I (MEDC 411)	3
Pathogenesis and Etiology of Infectious Diseases (PHCG 421)	3
Drug Discovery I (PHCG 427)	3
Seminar on Topics of Interest in Natural Products Chemistry (PHCG 543)	1
Botanicals and Traditional Medicine (PHCG 429)	2
*Electives	3
	19
Total	19

**Second Semester**

Basic and Clinical Pharmacology II (PHCL 444)	4
Medicinal Chemistry of Therapeutic Agents II (MEDC 412)	3
Natural Product-derived Pharmaceuticals (PHCG 422)	4
Drug Discovery II (PHCG 428)	3
Seminar on Topics of Interest in Natural Products Chemistry (PHCG 544)	1
*Electives	3
<b>Total</b>	<b>18</b>

\*Electives may be selected from the following list; other courses require prior approval by the departmental faculty.

CHEM 471, 473 (Biochemistry, 3 hours each)

BISC 340 (Cell and Molecular Biology, 3 hours)

PHCG 541, 542 (Problems in Pharmacognosy, 1-4 hours each)

PHCG 522 (Cultivation and Processing of Medicinal Plants, 2 hours)

BISC 320 (Introductory Marine Biology, 3 hours)

BISC 322 (General Ecology, 4 hours)

BISC 341 (Plant Taxonomy, 4 hours)

BISC 342 (Spring and Summer Flora of Mississippi, 4 hours)

BISC 502 (Mycology, 4 hours)

PHCG 545, 546 (Individual Study in Pharmacognosy Research, 1-6 hours)

**4. Pharmacology/Toxicology**—A concentration leading to the B.S. in Pharmaceutical Sciences with specialization in pharmacology/toxicology consists of the successful completion of the first three years of the B.S. in Pharmaceutical Sciences curriculum followed by competitive admission into the program and completion of the fourth year as described below. Individuals admitted may choose to emphasize areas that include environmental toxicology, cardiovascular pharmacology, CNS pharmacology, or nutritional or biochemical pharmacology/toxicology. This degree option provides an opportunity for the student to participate in basic and applied research projects (Problems in Pharmacology/Toxicology, PHCL 541). The graduate should have obtained knowledge and skills necessary to compete for entry-level positions in pharmaceutical, environmental toxicological, or other biomedical science laboratories. The preparation received also should qualify the graduate to obtain admission to graduate programs in pharmacology/toxicology and related fields.

Admission: Acceptance of students into this track will be limited dependent upon the availability of space for the laboratory-intensive courses. A competitive admission process will be used in the acceptance of undergraduate students, which depends upon:

- a cumulative three-year minimum GPA of 2.75 or approval of the faculty.
- a 2.00 minimum GPA on all required courses through the third year of the B.S. in Pharmaceutical Sciences curriculum.
- a C grade minimum on third-year PHCL courses and Medicinal Chemistry 317.
- a letter of application including the reasons for selecting this track and the student's future goals.
- a successful personal interview by departmental faculty.

## FOURTH YEAR (P4) Pharmacology/Toxicology Concentration

<b>First Semester</b>	<b>Hours</b>
Introduction to Toxicology (PHCL 381)	3
Methods in Pharmacology and Toxicology I (PHCL 503)	2
Biometry (BISC 504)	3
Current Topics in Pharmacology/Toxicology (PHCL 543)	1
Basic and Clinical Pharmacology I (PHCL 443)	4
*Elective	3-4
Total	16-17
<b>Second Semester</b>	
Introduction to Environmental Toxicology (PHCL 347)	3
Methods in Pharmacology and Toxicology II (PHCL 504)	2
Current Topics in Pharmacology/Toxicology (PHCL 543)	1
Basic and Clinical Pharmacology II (PHCL 444)	4
Problems in Pharmacology and Toxicology (PHCL 541)	3
*Elective	3-6
Total	16-19

\*Electives may be selected from the following list, or others may be chosen with prior approval of the departmental faculty:

Medicinal chemistry: Medicinal Chemistry of Therapeutic Agents I and II (MEDC 501, 502, each 3 hours)

Biology: Cell and Molecular Biology (BISC 340, 3 hours); Cell Physiology (BISC 521, 4 hours)

Pharmacognosy: Pathogenesis and Etiology of Infectious Diseases (PHCG 421, 3 hours); Natural Product-derived Pharmaceuticals (PHCG 422, 4 hours)

Pharmaceutics: Biopharmaceutics-Pharmacokinetics (PHAR 434, 3 hours)

Psychology: Drugs and Behavior (PSY 411, 3 hours)

**5. Medicinal Chemistry**—A concentration leading to the B.S. in Pharmaceutical Sciences/medicinal chemistry consists of the successful completion of the first three years of the B.S. in Pharmaceutical Sciences curriculum, followed by competitive admission to the program and a minimum of 30 hours in the medicinal chemistry track within the fourth year of the B.S. in Pharmaceutical Sciences curriculum. The degree program emphasizes advanced medicinal chemistry, synthetic chemistry, laboratory skills, and elective areas that can include natural product chemistry, pharmacology, biochemistry, organic chemistry, analytical chemistry, or biology. The degree program provides an environment for the student to conduct basic and applied research (Problems in Medicinal Chemistry) and an opportunity to improve his or her science communication skills. A graduate with a B.S. in Pharmaceutical Sciences/medicinal chemistry should possess the knowledge and skills necessary to compete for positions in the pharmaceutical, agrochemical, and specialty chemical industries. Also, this graduate should have the education and training required for admission into graduate programs in medicinal chemistry and related fields.

Admission: Because medicinal chemistry is a laboratory intensive course of study, the total number of students admitted to the track leading to the B.S. in Pharmaceutical Sciences/medicinal chemistry will be limited by the availability of quality laboratory space. Competitive admission to the program depends on

- a) a 2.00 GPA or higher obtained on all courses completed during the P3 year of the B.S. in Pharmaceutical Sciences curriculum.
- b) a minimum of a cumulative 2.50 GPA achieved in 20 credit hours of medicinal chemistry and chemistry courses consisting of General Chemistry I, II (8 hours); Organic Chemistry I, II (8 hours); Principles of Medicinal Chemistry (MEDC 314, 3 hours); and Laboratory Principles of Medicinal Chemistry (MEDC 315, 1 hour); or approval of the department.
- c) a C grade minimum on each of the medicinal chemistry and chemistry courses required above, or approval of the department.
- d) a letter of application indicating the reasons for selecting this track and how it fits into the applicant's future goals along with a completed application form and a successful departmental interview.

#### FOURTH YEAR (P4) Medicinal Chemistry Concentration

First Semester	Hours
Advanced Medicinal Chemistry I (MEDC 501) or equivalent	3
Problems in Medicinal Chemistry (MEDC 541)	3
Medicinal Chemistry Research Methodology (MEDC 503)	3
Seminar on Current Medicinal Chemistry Topics (MEDC 543)	1
Intermediate Organic Chemistry (CHEM 524) OR elective*	3
Elective—from list below; choice made with adviser's concurrence	3-4
Total	16-17
Second Semester	
Advanced Medicinal Chemistry II (MEDC 502)** or equivalent	3
Problems in Medicinal Chemistry (MEDC 542)	4
Seminar on Current Medicinal Chemistry Topics (MEDC 544)	1
Organic Chemistry of Drug Synthesis (MEDC 507)**	3
Elective—from list below; choice made with adviser's concurrence	3-4
Total	14-15

\*Department prefers CHEM 524; however, it is a 500-level graduate course, and a student must be within 15 semester hours of the bachelor's degree to enroll in a maximum of 3 semester hours of graduate credit and within 12 semester hours of the bachelor's degree to enroll in a maximum of 6 semester hours of graduate credit.

\*\*May be taken for graduate credit if Graduate School requirements are satisfied.

ELECTIVES: Electives may be selected from the following list; other courses require prior approval by the departmental faculty.

Pharmacology: Basic and Clinical Pharmacology I, II (PHCL 443, 444; 4 hours each), Introductory Pharmacology I, II (PHCL 563, 564; 4 hours each)

Pharmacognosy: Pathogenesis and Etiology of Infectious Diseases (PHCG 421, 3 hours), Natural Product-derived Pharmaceuticals (PHCG 422, 4 hours)

Biochemistry: Biochemistry (CHEM 471, 473; 3 hours)

Other chemistry: Quantitative Analysis (CHEM 413, 3 hours), Introduction to the Chemistry of Natural Products (CHEM 320, 3 hours), Biophysical Chemistry (CHEM 334, 3 hours), Clinical Chemistry (CHEM 414, 4 hours), Computer Methods in Chemistry (CHEM 415, 3 hours), Qualitative Organic Analysis (CHEM 423, 3 hours)

Biology: Cell and Molecular Biology (BISC 340, 3 hours)

## C. GENERAL COMMENTS

### 1. Computer Requirements

Students in the B.S. in Pharmaceutical Sciences program are required to possess a laptop computer upon enrollment. Early-entry students are required to have this equipment prior to the fall semester of their P2 year. Minimal hardware and software specifications are updated annually by the School of Pharmacy Instructional Technology Committee, after consultation with the University Department of Information Technology. The revised specifications will be available each June from the Office of the Associate Dean for Academic and Student Affairs. They also will be listed on the school homepage at <http://www.olemiss.edu/depts/pharmacy>. The school philosophy is that these minimal specifications will provide the appropriate computing power and capabilities needed to complete the Doctor of Pharmacy program for that class of entering B.S. in Pharmaceutical Sciences students.

### 2. Financial Obligations

All financial obligations to the University and to the School of Pharmacy Student Body, as well as obligations to on-campus chapters of professional pharmacy student organizations in which the student has accepted membership, must be satisfied in order to progress to the next academic year and to receive the B.S. in Pharmaceutical Sciences diploma.

### 3. Liability/Malpractice Insurance

Students pursuing the practice track will be required annually at the student's expense to offer proof (for example, photocopy of the certificate of insurance with dates of coverage included), prior to the completion of the P3 year and extending through completion of the P6 year of the Doctor of Pharmacy curriculum, of personal/professional liability coverage (a minimum of \$1 million per individual claim, \$3 million per incident).

### 4. Immunization

Bachelor of Science practice track students (at the students' expense) will be required to demonstrate proof of completion of the three-shot series of hepatitis B vaccinations prior to completion of the P3 year. If a student has not been immunized previously against hepatitis B, he or she should complete the series of three injections, which are to be administered over a six-month period during the P3 year. More than 90 percent of students so immunized will demonstrate a positive antibody titer within one month after completion of the injection schedule. Students may want to ascertain their immune status prior to beginning this expensive series (\$125-\$150) of injections since about 10 percent of the population is immune without having a documented history of having an active case of hepatitis B.

Students also will be required to have a PPD test (negative X-ray if previously PPD positive) prior to completing the fall semester of the P3 year and spring of the P4 year. Students having a positive PPD test must, by negative chest X-ray, demonstrate lack of an active case of tuberculosis or offer proof that they are undergoing treatment if currently infected.

### 5. Extern or Pharmacist Registration with the Mississippi State Board of Pharmacy (MSBP)

All students must present proof of extern/intern registration with the MSBP prior to participating in the experiential program, i.e., before the end of the P3 fall semester. A photocopy of the entry-level student's MSBP extern card is acceptable documentation.

## 6. Programmatic Assessment

Students' participation in programmatic assessment activities occurs during P3 orientation sessions during the spring of the P4 and P6 years. All students are required to participate in these activities in order for verification of their diploma application to proceed. Students are expected to take these activities seriously and to perform to the best of their ability. Otherwise, the results of these assessments would be invalid and unreliable and lead to inappropriate programmatic changes.

## 7. Curricular Philosophy

The curricular philosophy for the entry-level Doctor of Pharmacy program is an amalgamation of four general principles. Completion of the curriculum will (1) prepare practitioners who can effectively participate in the pharmaceutical care practice model as defined below, (2) ensure the development of a defined set of general and professional educational abilities listed below, as well as appropriate content knowledge, (3) ensure that students become active, rather than passive, learners, and (4) ensure the development of higher-order thinking skills. These principles and curricular characteristics are evident in all four years of the professional program (P3 year and P4 practice track curriculum extending into and throughout the P5 and P6 years).

### a. Pharmaceutical Care

The curriculum leading ultimately to the Doctor of Pharmacy degree is designed to provide the abilities necessary for the graduate to be capable of providing acceptable levels of pharmaceutical care. Pharmaceutical care is the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life. These outcomes are (1) cure of a disease, (2) elimination or reduction of a patient's symptomatology, (3) arresting or slowing of a disease process, or (4) preventing a disease or symptomatology.

Pharmaceutical care involves the process through which a pharmacist cooperates with a patient and other professionals in designing, implementing, and monitoring a therapeutic plan that will produce specific therapeutic outcomes for the patient. This, in turn, involves three major functions: (1) identifying potential and actual drug-related problems, (2) resolving actual drug-related problems, and (3) preventing potential drug-related problems.

Pharmaceutical care is a necessary element of health care, and should be integrated with other elements. Pharmaceutical care is, however, provided for the direct benefit of the patient, and the pharmacist is responsible directly to the patient for the quality of that care. The fundamental relationship in pharmaceutical care is a mutually beneficial exchange in which the patient grants authority to the pharmacist and the pharmacist gives competence and commitment (accepts responsibility) to the patient. The mission of a pharmacy practitioner is the distribution of optimal pharmaceutical care in addition to accurate distribution of drugs.

### b. Abilities-based Curriculum

An ability comprises a combination of knowledge, skill, and attitude. The curriculum culminating in the awarding of the Doctor of Pharmacy degree is ability-based, rather than entirely content-focused. Successful completion of the program will ensure the development of both general and professional abilities. Progression through the four-year curriculum provides for the formulation and continuous strengthening of these abilities.

## 1. General Abilities

### *Critical Thinking, Analysis, and Decision-making*

The student can find, understand, analyze, evaluate, and synthesize information and make informed, rational, and responsible decisions.

### *Communication Skills*

The student can communicate with various audiences by written, verbal, and electronic media for a variety of purposes.

### *Mathematical Competence*

The student is proficient in the expression of quantitative relationships and can perform the needed mathematical operations to infer their consequences.

### *Scientific and Scholarly Comprehension*

The student can evaluate the scientific and scholarly validity of inferences drawn from evidence or experiments.

### *Social Skills*

The student can make judgments informed by historical, social, economic, scientific, and political contexts and is respectful of the cultural differences between those of diverse ethnic, sexual, age, and religious groups.

### *Self and Social Awareness*

The student demonstrates an understanding of self and others, which enhances personal and professional relationships.

### *Ethics*

The student can use clearly defined ethical principles as a basis for conduct in personal and professional settings.

### *Citizenship and Leadership*

The student understands the individual's role as a member of professional and civic affiliations and exhibits the capacity to contribute to and to assume leadership roles within these communities as is appropriate.

### *Self-learning Abilities and Habits*

The student exhibits intellectual curiosity, takes responsibility for gaining new knowledge and skills, can self assess and adapt to change, and exhibits creativity in developing these habits.

## 2. Professional Abilities

### *Assess patient drug therapy*

Collect and organize patient data, medical records, interviews, and psychomotor evaluations; evaluate and interpret patient data; apply knowledge of specified drugs; apply knowledge of specific physiologic systems; and apply knowledge of specific disease pathology and comorbid conditions.

### *Develop comprehensive patient-specific drug therapy plans*

Apply understanding of indications for pharmacologic and nonpharmacology therapy; apply clinical reasoning skills in drug product selection, chemical entity, dosage formulation; develop appropriate dosing regimens that reflect application of knowledge of pharmaceutical calculations, initial dose, dose titration, and dosage adjustments; develop rational plans for monitoring therapeutic outcomes; develop rational plan for monitoring and managing adverse events; develop plan for

anticipating, avoiding, and resolving drug interactions, drug-drug interaction, drug-food interaction, drug-disease interaction, drug-lab interaction, and drug-procedure interaction; and develop plans for patient education on drug therapy and healthy lifestyle alternatives.

*Manage professional practice*

Use resource management to maximize pharmaco-economic outcomes, payment issues, personnel management, time management, and technology; appropriately manage drug distribution; apply ethics and value systems to practice, personnel management, treatment choices, and confidentiality; demonstrate entrepreneurial and intrapreneurial initiative, specialization, and innovative reimbursement strategies; and practice in accordance with state and federal regulations and statutes.

*Collaborate with patients, caregivers, and health professionals*

Employ communication styles and techniques appropriate to the audience; work effectively within multidisciplinary and interdisciplinary environment; include patient and caregiver as integral parts of a treatment plan; work cooperatively to facilitate support groups (e.g., Alcoholics Anonymous, Epilepsy Foundation).

*Evaluate pertinent scientific literature to optimize patient care*

Apply understanding to statistical methods; apply understanding of research design principles; evaluate research outcomes for validity; perform effective biomedical literature search and retrieval.

*Demonstrate understanding of health problems specific to diverse populations*

Display empathy in patient interactions; apply understanding of developmental and degenerative factors that influence health and health care; display sensitivity to differences in ethnicity, gender, values or belief systems; apply understanding of social and economic factors that influence health and health care.

*Provide comprehensible, effective education to patients, health care professionals, and the public*

Serve as reliable and credible source of drug information; effectively educate patients using all appropriate communication modalities (verbal, written, other); apply knowledge of roles of advocacy and support organizations (e.g., AA, Epilepsy Foundation) to practice; present effective educational programs and presentations to public and health care profession audiences.

*Accurately and comprehensibly document recommendations and services*

Document patient care in an orderly and proficient manner; use standard medical record documentation formats, apply knowledge of protocols to initiate and modify drug therapy; write effective proposals for disease state management.

*Analyze internal and external factors that influence pharmacy and other health care systems*

Demonstrate knowledge of the impact of health care systems on pharmacy practice; demonstrate understanding of the influences of legislation on pharmacy practice; demonstrate understanding of the roles of professional organizations; demonstrate understanding of the influences of market forces on pharmacy practice.

### 3. Active Learning

Instructional methodology emphasizes active (independent) rather than passive (dependent) learning. A characterization of active learning is as follows:

Most students enter pharmacy schools as dependent learners; that is, they enter with the perception that it is the teachers' responsibility to teach students, while de-emphasizing, if not ignoring, the responsibility of students to learn on their own. Students come to health professional schools adept at memorizing facts, and the teaching methods at most professional schools readily focus on this characteristic. In practice, the practitioner must rely on his or her ability to interpret data in order to reach conclusions and solve problems. There is no "teacher" in practice (except other practitioners and the patient). Consequently, in practice, the responsibility to learn must reside with the learner/practitioner. And so it must be while in the School of Pharmacy. The responsibility to learn must rest with the learner/student, not with the teacher.

It follows, then, that a major responsibility of pharmacy educators is to shift the burden of learning from the teacher to the student. The transition from a dependent learner to an independent learner must occur as the student progresses through the pharmacy curriculum. Students must understand that to become educated is to know what questions to ask and where the answers may be found.

Teaching must be achieved through educational processes that involve students as active learners. One measure of achieving this goal is to require participation in cooperative learning projects. Teachers must view themselves as coaches and facilitators rather than merely as providers and interpreters of information. As students move from the P3 to the P6 years, increasing emphasis is placed on active learning strategies.

### 4. Development of Higher-order Thinking Skills

Closely aligned with the incorporation of active learning strategies is the formatting of class evaluation instruments to include more emphasis on higher-order thinking skills. Different questions require different levels of thinking. Lower-level questions are appropriate for assessing students' preparation and comprehension or for reviewing and summarizing content. Higher-level questions encourage students to think critically and to solve problems. Various researchers have developed cognitive schemes for classifying questions. Bloom's system of ordering thinking skills from lower to higher has become a classic and includes the following skills:

- Knowledge skills (remembering previously learned material such as definitions, principles, formulas): "Define shared governance." "What are Piaget's stages of development?"
- Comprehension skills (understanding the meaning of remembered material, usually demonstrated by restating or citing examples): "Explain the process of mitosis." "Give some examples of alliteration."
- Application skills (using information in a new context to solve a problem, answer a question, perform a task): "How does the concept of price elasticity explain the cost of oat bran?" "Given the smallness of the sample, how would you analyze these data?"
- Analysis skills (breaking a concept into its parts and explaining their interrelationships; distinguishing relevant from extraneous material): "What factors affect the price of gasoline?" "Point out the major arguments Shelby Steele uses to develop his thesis about affirmative action."

- Synthesis skills (putting parts together to form a new whole; solving a problem requiring creativity or originality): “How would you design an experiment to show the effect of receiving the Distinguished Teaching Award on a faculty member’s subsequent career progress?” “How would you reorganize Bloom’s taxonomy in light of new research in cognitive science?”
- Evaluation skills (using a set of criteria to arrive at a reasoned judgment of the value of something): “To what extent does the proposed package of tax increases resolve the budget deficit?” “If cocaine were legalized, what would be the implications for public health services?”

The School of Pharmacy faculty are committed to increasing the percentage of questions on their examinations that involve higher-level thinking skills. The commitment is based on the assumption that it is the development of these skills that will enable the graduate to provide appropriate levels of patient care.

## II. DOCTOR OF PHARMACY PROGRAM

The Doctor of Pharmacy degree is the entry-level professional degree, requiring a minimum of four years of academic work. The first two years consist of the final two years of the B.S. in Pharmaceutical Sciences (practice track) degree program at The University of Mississippi. The Doctor of Pharmacy degree also may be awarded to practitioners possessing a B.S. in Pharmacy degree after completing additional didactic and experiential education.

Graduates of this program are eligible to sit for licensure examination, which must be successfully completed to practice the profession of pharmacy. The majority of the last two years of the Pharm.D. program occurs at sites other than on the Oxford campus, e.g., The University of Mississippi Medical Center in Jackson, Tupelo, Biloxi, Hattiesburg, etc.

Graduates of a B.S. in Pharmacy program who are licensed to practice pharmacy in Mississippi, graduates of The University of Mississippi B.S. in Pharmacy program, and graduates of The University of Mississippi B.S. in Pharmaceutical Sciences (practice track) program are eligible for admission into the Doctor of Pharmacy program. Requests to transfer to this program from students in good academic standing at other ACPE schools of pharmacy will be considered on an individual basis, as well as on a space-available basis. Such transfers must occur prior to the beginning of the P5 year, given the unique nature of course design of this program as compared to other schools of pharmacy. Transfer, if approved, likely may result in the student needing to take, at a minimum, an additional semester of course work, given the uniqueness of course sequencing in the various schools of pharmacy.

### A. Application Process

To be considered for admission into the entry-level Doctor of Pharmacy program, B.S. in Pharmaceutical Sciences practice track students must submit, during the spring semester of the P4 year, a statement of intention to complete the Pharm.D. curriculum. Final admission will not occur until after graduation from the B.S. in Pharmaceutical Sciences (practice track) program. Applications for admission to the postbaccalaureate (B.S. in Pharmacy) Pharm.D. program must be submitted by February 1 preceding fall admission.

### B. Admission Criteria

The minimum requirements for provisional admission to the entry-level Doctor of Pharmacy program are as follows:

1. Successful completion of the B.S. in Pharmaceutical Sciences practice track curriculum.
2. All required courses of the regular-entry curriculum must be taken at The University of Mississippi in the sequence defined by the curriculum.
3. A GPA (calculated on all grades earned) of at least 2.75 on all required courses in the P3 regular-entry curriculum and of at least a 2.75 GPA on all required courses in the P4 regular-entry practice track curriculum.
4. Grades of at least C in each of the required courses in the P3 regular entry curriculum and in all required P4 practice track courses.

Optional career tracks or curricular concentrations are available during the fourth year of the B.S. in Pharmaceutical Sciences program. However, completion of these optional tracks will not provide eligibility to enter the Doctor of Pharmacy program. These optional tracks will provide the background for entering pharmacy-related careers, graduate programs in the pharmaceutical sciences, or other professional schools.

### C. Progression Requirements

A student who earns a grade of F in two or more courses during the P5 and/or P6 year will be dismissed from the Pharm.D. program. A student academically dismissed may only be re-admitted one time and must begin the program with the P5 fall courses and repeat all previously passed courses. No required course may be taken more than two times. All courses must be completed with a grade of C or better to be eligible for graduation.

### D. Curricular Philosophy (Refer to B.S. in Pharmaceutical Sciences section)

### E. Curriculum for Entry-level Doctor of Pharmacy Program

The following is the curriculum for years five and six:

#### FIFTH YEAR (P5)

First Semester	Hours
Pharmaceutical Care I: Knowledge and Comprehension (PRCT 555)	3
Pharmaceutical Care I: Problem Solving (PRCT 556)	3
Pharmaceutical Care I: Group (PRCT 557)	2
Pharmaceutical Care II: Knowledge and Comprehension (PRCT 558)	3
Pharmaceutical Care II: Problem Solving (PRCT 559)	3
Pharmaceutical Care II: Group (PRCT 560)	2
Seminar Skills Development for Health Care Professionals I (Z grade) (PRCT 566)	1
Information Skills in Pharmacy Practice (Z grade) (PRCT 551)	1
Total	18
<b>Second Semester</b>	
Pharmaceutical Care III: Knowledge and Comprehension (PRCT 561)	3
Pharmaceutical Care III: Problem Solving (PRCT 562)	3
Pharmaceutical Care III: Group (PRCT 563)	2
Pharmaceutical Care IV: Knowledge and Comprehension (PRCT 564)	3
Pharmaceutical Care IV: Problem Solving (PRCT 565)	3
Pharmaceutical Care IV: Group (PRCT 569)	2
Seminar Skills Development for Health Care Professionals (Z grade) (PRCT 566)	1
Pharmacy Biomedical Ethics (Z grade) (PRCT 568)	2
Total	19

## SIXTH YEAR (P6)

Each student will participate in four required six-week rotations (medicine, ambulatory care, institutional practice, and community practice) and three six-week elective rotations for a total of 42 weeks of experiential education during the period beginning in June following completion of the P5 year and ending with May commencement of the succeeding year. The electives must be in three different areas of training. Students also must register for Seminar Skills Development II (PRCT 567) during one semester of the P6 year.

### F. Curriculum for Postbaccalaureate Doctor of Pharmacy Program

This degree is for pharmacy practitioners previously receiving a B.S. in Pharmacy degree. Participants in this program also must meet requirements G1, 2, 3, 4 (see next section) for entry-level program participants and the computer requirements detailed for B.S. in Pharmaceutical Sciences students.

## FIRST YEAR

First Semester	Hours
Pharmaceutical Care I: Knowledge and Comprehension (PRCT 555)	3
Pharmaceutical Care I: Problem Solving (PRCT 556)	3
Pharmaceutical Care I: Group (PRCT 557)	2
Pharmaceutical Care II: Knowledge and Comprehension (PRCT 558)	3
Pharmaceutical Care II: Problem Solving (PRCT 559)	3
Pharmaceutical Care II: Group (PRCT 560)	2
Seminar Skills Development for Health Care Professionals I (Z grade) (PRCT 566)	1
Information Skills in Pharmacy Practice (Z grade) (PRCT 551)	1
Total	18
<b>Second Semester</b>	
Pharmaceutical Care III: Knowledge and Comprehension (PRCT 561)	3
Pharmaceutical Care III: Problem Solving (PRCT 562)	3
Pharmaceutical Care III: Group (PRCT 563)	2
Pharmaceutical Care IV: Knowledge and Comprehension (PRCT 564)	3
Pharmaceutical Care IV: Problem Solving (PRCT 565)	3
Pharmaceutical Care IV: Group (PRCT 569)	2
Seminar Skills Development for Health Care Professionals (Z grade) (PRCT 566)	1
Pharmacy Biomedical Ethics (Z grade) (PRCT 568)	2
Total	19

## SECOND YEAR

Whereas entry-level Doctor of Pharmacy students are required to complete seven rotations, these students are required to complete four six-week rotations (ambulatory care, medicine, plus two electives) given their prior practice experience and previous completion of experiential requirements for obtaining a B.S. in Pharmacy degree. Each of these rotations may be accomplished in a six-week (40 hours/week) or 12-week (20 hours/week) period. These rotations may not be performed at the regular employment site of the student. Students also must register for Seminar Skills Development II (PRCT 567) during the fall semester of the P6 year.

## **G. Additional Program Requirements**

### **1. Basic Life Support for the Health Care Provider Training**

Basic Life Support for the Health Care Provider (BLSHCP) training is required of all students enrolled in the experiential program. A BLSHCP course trains students how to perform adult, child, and infant cardiopulmonary resuscitation (CPR); manage foreign body airway obstruction in the adult, child, and infant; defibrillate utilizing an Automated External Defibrillator. Documentation may be in the form of a photocopy of the course completion card. Per the American Heart Association guidelines, BLS providers should receive training every two years. Therefore, in order to fulfill the BLS requirement, students should obtain BLS training no earlier than the summer prior to the P5 year. Students are responsible for independently obtaining BLS training. Students may wish to contact their local hospital, Red Cross office, or one of the local training sites noted in the School of Pharmacy Student Handbook.

### **2. Immunization**

Postbaccalaureate Doctor of Pharmacy and entry-level Doctor of Pharmacy students (AT THE STUDENT'S EXPENSE) will be required to show proof of immunization against hepatitis B at the time of P5 orientation. If a student has not been immunized previously against hepatitis B, he or she should complete the series of three injections, which are to be administered over a six-month period during the P4 year. The series should be completed prior to beginning the P5 year. More than 90 percent of students so immunized will demonstrate a positive antibody titer within one month after completion of the injection schedule. Students may want to ascertain their immune status prior to beginning this expensive series (\$125-\$150) of injections since about 10 percent of the population is immune without having a documented history of having an active case of hepatitis B.

Students also will be required to have a PPD test (negative X-ray if previously PPD positive) prior to or during orientation activities preceding the P5 year, and also before beginning P6 rotations. Students having a positive PPD test must, by negative chest X-ray, demonstrate lack of an active case of tuberculosis or offer proof that they are undergoing treatment if currently infected.

Furthermore, it is expected that students will receive influenza immunization in the fall of their P6 year. Proof of receipt of influenza vaccinations must be submitted by December of the P6 year in order to advance to spring semester rotations.

### **3. Liability/Malpractice Insurance**

Each Pharm.D. student (AT THE STUDENT'S EXPENSE) will be required to offer proof (for example, photocopy of the certificate of insurance with dates of coverage included) of personal/professional liability coverage (a minimum of \$1 million per individual claim, \$3 million per incident) prior to beginning and extending through the completion of the P5 and P6 years of the program.

### **4. Medical/Hospitalization Insurance**

Hospitalization/medical insurance is required of all students enrolled in P5 and P6 courses. Coverage is available through a plan available to University of Mississippi Medical Center (UMMC) students. Contact the Student Accounting Office at UMMC for details. Open enrollment in this plan occurs only at the beginning of the P5 year. Later attempts to enroll may require a physical examination and provider approval. An alternative plan is also

available through the Student Health Center on the Oxford campus. It is the student's responsibility to notify the Office of the Associate Dean for Academic and Student Affairs if any changes in coverage occur during this two-year period.

**5. Extern or Pharmacist Registration with the Mississippi State Board of Pharmacy (MSBP)**

All Entry Level students must present proof of extern/intern registration with the MSBP prior to participating in the experiential program. A photocopy of the entry-level student's MSBP extern card is acceptable documentation. Post-B.S. students should submit a photocopy of their most recent state registration card. Students may contact MSBP for replacement cards or additional information regarding extern registration.

**6. Financial Obligations**

All financial obligations to the University, UMMC, and the School of Pharmacy Student Body, including obligations to on-campus chapters of professional student organizations in which the student has accepted membership, must be satisfied in order to receive a diploma. Students enrolled in the Doctor of Pharmacy program are required to pay each semester a UMMC student activity fee, which is billed through the Oxford campus. This fee is included in the tuition and fees for P5 and P6 students. This fee entitles students to full student services and participation in student life activities at UMMC during the P5 and P6 years.

**7. Programmatic Assessment**

Students' participation in programmatic assessment activities occurs during P3 orientation sessions during the spring of the P4 and P6 years. All students are required to participate in these activities in order for verification of their diploma application to proceed. Students are expected to take these activities seriously and to perform to the best of their ability. Otherwise, the results of these assessments would be invalid and unreliable and lead to inappropriate programmatic changes.